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Serial No.: 10/506,984

Confirmation No.: 2347

Filed: December 15, 2004

For: COATINGS HAVING LOW VOLATILE ORGANIC COMPOUND CONTENT

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**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1.     **(Original)** A method of making a coating composition, comprising the steps of:  
blending an epoxy material, a reactive diluent, and an acrylic resin;  
reacting the epoxy material and the acrylic resin to form an epoxy acrylate resin;  
dispersing the reactive diluent and the epoxy acrylate resin into water; and  
polymerizing the reactive diluent, wherein the aqueous coating composition formed has a volatile organic compound content of no greater than 0.4 kilogram per liter of solids.
2.     **(Original)** The method of claim 1, wherein the epoxy material comprises diglycidyl ether of bisphenol-A.
3.     **(Original)** The method of claim 1, wherein the molecular weight of the epoxy material is 350 to 6,000.
4.     **(Original)** The method of claim 1, wherein the molecular weight of the epoxy material is 1,500 to 4,000.
5.     **(Previously presented)** A method of making a coating composition, comprising the steps of:  
blending an epoxy material, a reactive diluent, and an acrylic resin;  
reacting the epoxy material and the acrylic resin to form an epoxy acrylate resin;  
dispersing the reactive diluent and the epoxy acrylate resin into water; and  
polymerizing the reactive diluent, wherein the aqueous coating composition formed has a volatile organic compound content of no greater than 0.4 kilogram per liter of solids, and

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wherein the reactive diluent is selected from the group consisting of ethyl acrylate, 2-ethylhexyl acrylate, methyl acrylate, butyl acrylate, isobutyl acrylate, *tert*-butyl acrylate, 2-hydroxyethyl acrylate, poly(ethylene glycol) acrylate, isobornyl acrylate, butyl methacrylate, methyl methacrylate, ethyl methacrylate, isobutyl methacrylate, 2-hydroxyethyl methacrylate, poly(ethylene glycol) methacrylate, poly(propylene glycol) methacrylate, styrene, substituted styrene, vinyl acetate, vinyl chloride, vinylidene chloride, acrylamide, and acrylonitrile.

6. **(Previously Presented)** The method of claim 5, wherein the reactive diluent comprises butyl acrylate and styrene.

7. **(Previously Presented)** The method of claim 5, wherein the reactive diluent comprises butyl acrylate.

8. **(Original)** The method of claim 1, wherein the acrylic resin comprises a polymeric backbone having at least one pendant or terminal carboxylic acid moiety.

9. **(Original)** The method of claim 8, wherein the acrylic resin is formed using a monomer selected from the group consisting of acrylic acid, methacrylic acid, fumaric acid, crotonic acid, maleic acid, and itaconic acid.

10. **(Original)** The method of claim 8, wherein the acrylic resin is formed using a monomer selected from the group consisting of ethyl acrylate, methyl acrylate, butyl acrylate, ethyl methacrylate, methyl methacrylate, butyl methacrylate, styrene, substituted styrene, vinyl acetate, vinyl chloride, vinylidene chloride, 2-ethylhexyl acrylate, isobutyl acrylate, *tert*-butyl acrylate, 2-hydroxyethyl acrylate, poly(ethylene glycol) acrylate, isobornyl acrylate, acrylamide, and acrylonitrile.

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11. **(Original)** The method of claim 8, wherein the acrylic resin is formed using acrylic acid, styrene, and ethyl acrylate.

12. **(Original)** The method of claim 1, wherein the composition further comprises an initiator.

13. **(Previously Presented)** A method of making a coating composition, comprising the steps of:

blending an epoxy material, a reactive diluent, and an acrylic resin;

reacting the epoxy material and the acrylic resin to form an epoxy acrylate resin;

dispersing the reactive diluent and the epoxy acrylate resin into water; and

polymerizing the reactive diluent, wherein the aqueous coating composition formed has a volatile organic compound content of no greater than 0.4 kilogram per liter of solids, and

wherein the composition further comprises an initiator selected from the group consisting of peroxides, persulfates, sulfites, bisulfites, azoalkanes, UV light initiators, and visible light initiators.

14. **(Currently Amended)** A method of making a coating composition, comprising the steps of:

blending an epoxy material, a reactive diluent, and an acrylic resin;

reacting the epoxy material and the acrylic resin to form an epoxy acrylate resin;

dispersing the reactive diluent and the epoxy acrylate resin into water; and

polymerizing the reactive diluent, wherein the aqueous coating composition formed has a volatile organic compound content of no greater than 0.4 kilogram per liter of solids, and

wherein the composition further comprises an initiator selected from the group consisting of benzoyl peroxide, t-butyl hydroperoxide, ammonium persulfate, hydrazine, ammonium sulfites, alkali metal sulfites, bisulfites, metabisulfites, hydrosulfites, and combinations thereof.

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15. **(Currently Amended)** A method of making a coating composition, comprising the steps of:

blending an and epoxy material, a reactive diluent, and an acrylic resin;

reacting the epoxy material and the acrylic resin to form an epoxy acrylate resin;

dispersing the reactive diluent and the epoxy acrylate resin into water; and

polymerizing the reactive diluent, wherein the aqueous coating composition formed has a volatile organic compound content of no greater than 0.4 kilogram per liter of solids, and

wherein the composition further comprises an initiator comprising benzoin and hydrogen peroxide.

16. **(Original)** The method of claim 1, wherein the volatile organic compound content of the coating composition is no greater than 0.3 kilogram per liter of solids.

17. **(Original)** The method of claim 1, wherein the volatile organic compound content of the coating composition is no greater than 0.2 kilogram per liter of solids.

18. **(Original)** The method of claim 1, wherein the volatile organic compound content of the coating composition is no greater than 0.1 kilogram per liter of solids.

19. **(Original)** The method of claim 1, wherein the coating composition is substantially free of formaldehyde.

20. **(Original)** A method of coating a substrate comprising the steps of:  
applying a coating prepared according to the method of claim 1 on a substrate; and  
hardening the coating.

21. **(Original)** The method of claim 20, wherein the substrate is metal.

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22. **(Original)** The method of claim 20, wherein the substrate is a portion of a container.
23. **(Previously Presented)** A coating composition prepared by the method of claim 1.
24. **(Original)** A substrate coated with a coating composition prepared according to the method of claim 1.